F. Best Professional Judgment (BPJ) and Draft Development Documents and Treatability Manual

1. Best Professional Judgment (BPJ) (40 CFR 124.56(b)(1), 125.3(c) (2), (3), 125.3(d)).—a. *Existing rules.* Effluent limitations may be established on a case-by-case basis under section 402(a)(1) of the Clean Water Act in the absence of applicable effluent limitations guidelines, or in addition to effluent limitations guidelines if these guidelines do not control pollutants of concern or particular wastestreams at a facility. Permits containing case-by-case effluent limitations are based on a permit writer's "best professional judgment" (BPJ) and represent the appropriate statutory requirement—"best practicable control technology currently available" (BPT), "best conventional pollutant control technology currently available" (BCT), or "best available technology economically available" (BAT)—for that particular facility.

Because "BPJ" permit effluent limitations and conditions operate in the absence of, or in addition to, effluent limitations guidelines authorized under section 304(b) of the Clean Water Act, permit writers are required to apply the appropriate statutory factors in that section when imposing technology-based effluent limitations in permits on a case-by-case basis. The current regulations clearly state this obligation by requiring permit writers when writing BPJ permits to "apply the appropriate factors listed in section 304."

b. Proposed changes. Industry litigants were concerned that permit writers would not address these statutory factors unless expressly listed in the regulation. They were also concerned that permit writers would not explain the basis for their case-by-case determinations unless the regulation expressly required that their bases be set forth in the fact sheet required by § 124.56. EPA responded to these concerns by proposing to list the section 304(b) factors in proposed § 125.3(d) and to specifically reference the fact sheet in proposed § 125.3 (c)(2) and (c)(3). EPA also proposed a conforming revision to § 124.56(b)(1).

c. Comments and responses. Industry groups supported the proposed changes contending that listing the statutory factors would help ensure that permit writers follow the proper methodology in setting BPJ effluent limitations. They also claimed that requiring the fact sheet to set forth the basis for BPJ limitations would make it easier for applicants to comment on draft BPJ permits and for courts to review challenges to these permits. Two States administering the NPDES program objected to the proposal on the grounds that it would impose a burdensome requirement on the administering agency and, if followed literally, could make the fact sheet a larger document than the permit.

Sections 124.8 and 124.56 of the current NPDES regulations require permit writers to prepare a fact sheet for every draft permit for a major NPDES facility or activity. In accordance with these provisions, a fact sheet must include calculations or other necessary explanations of the derivation of specific effluent limitations and conditions, including a citation to applicable effluent limitations guidelines or where not applicable, an explanation of how alternative limits were developed. (For minor dischargers the permit writer must prepare a statement of basis (40 CFR 124.7). Although less detailed than a fact sheet, a statement of basis still requires an explanation of the derivation of the permit conditions.) States opposing the proposal apparently believed that reference to the fact sheet in proposed § 125.3 (c)(2) and (c)(3) imposed some greater burden of justification for BPJ limitations. The intent was merely to point out the requirements of §§ 124.8 and 124.56 of BPJ situations. To avoid misunderstanding, EPA has deleted the reference to the fact sheet in proposed § 125.3 (c)(2) and (c)(3) as redundant with existing §§ 124.8 and 124.56. The final regulation retains the section 304(b) statutory factors a permit writer must consider when setting technology-based effluent limitations on a case-by-case basis. Although BPJ permit writers are required to consider these factors whether or not they are listed in the regulations, the Agency agrees it is more efficient and effective to restate them in the regulations.

One commenter requested that permit writers be specifically instructed in § 125.3 to use the proposed BCT methodology (47 FR 49176 et seq., October 29, 1982) in determining BPJ–BCT effluent limitations. Since the BCT methodology has not yet been finalized, it would be inappropriate to reference it in this rulemaking. However, permittees and permit writers should be aware that once EPA establishes a BCT methodology, permit writers must apply this methodology in establishing BPJ permit limitations.

d. EPA action. Based on an evaluation of the comments in light of our BPJ permit experience, EPA will retain the list of statutory factors but has not adopted the fact sheet portion of the proposal.

2. Draft Development Document and Treatability Manual (40 CFR 125.3(c)(2)).—*a. Existing rules.* The current regulation includes EPA draft or proposed development documents or guidance in a parenthetical clause as examples of available information a permit writer must consider when making case-by-case determinations of technology-based effluent limitations.

b. Proposed changes. Industry parties to the settlement agreement were concerned that permit writers would do more than just *consider* development documents and guidance when writing BPJ permits. They feared that permit writers would be bound by these documents which, in their opinion, often contained faulty data. Additionally, litigants claimed that if permit writers are required to consider draft development documents and guidance, there would be no incentive for EPA to finalize effluent limitation guidelines. In response to these concerns, EPA proposed to delete the parenthetical reference to the documents in § 125.3(c)(2)(i), and stated in the preamble to the proposal that although not bound by EPA draft or proposed development documents or guidance, permit writers must consider all pertinent information, including these documents, in developing case-by-case effluent limitations.

c. Comments and responses. We received two comments on this issue. Both supported the proposed deletion of the parenthetical clause and stated that this change would ensure that undue weight would not be given to these documents.

d. EPA action. The final regulation does not contain the parenthetical clause. EPA continues to support the position taken in the preamble to the proposal that in establishing case-by-case permit limitations under section 402(a)(1) of the CWA, permit writers are not bound by EPA draft or proposed development documents or guidance. Permit writers should consider all pertinent information, including these documents, when developing case-by-case effluent limitations, just as they must consider significant comments and criticisms of the data they contain.

G. Net/Gross Limits (40 CFR 122.45(g)) [CPR § 122.63 (g), (h)]

1. Existing rules. The issue of whether and to what extent net/gross credits should be granted arises because of what appears to be a fundamental dichotomy. Industry has argued that dischargers are not responsible for removing pollutants already present in their intake water. (See *Appalachian*

Power Co. v. *Train*, 545 F.2d 1351, 1377 (4th Cir. 1977)). This should lead, they contend, to simple subtraction of intake pollutant values from effluent values when setting permit limits and measuring compliance. However, effluent limitations guidelines (guidelines) and other technology-based permit limitations are written on a gross basis without any such subtraction, because within a broad range of influent pollutant concentrations, treatment systems typically reduce pollutants to a certain level. Pragmatically, therefore, technology-based limits should be achievable regardless of the amount of intake pollutants. To grant a net/gross credit may give an unfair advantage to facilities with measurable levels of pollutants in their intake waters. Such facilities, by relying on intake credits, could "comply" with effluent limitations by utilizing a lower level of treatment than their competitors on cleaner streams—frequently a far lower level of treatment than that designated by EPA as BAT. Furthermore, intake pollutants rarely simply pass through a facility and all its associated intake and/or effluent treatment without some removal and/or complicated exchange of pollutants. In particular, generic pollutant parameters, such as total suspended solids or biochemical oxygen demand, frequently measure very different things in the influent and effluent. Thus, a simple subtraction of intake pollutants often does not make sense and would result in relaxing control standards in inappropriate circumstances.

The existing rule was intended to provide an allowance for intake pollutants considering the circumstances described above. Credits are available for pollutants to the extent that they are not removed by intake and effluent treatment systems. Also, to qualify for a credit, the intake water must come from the "same body of water" as that which receives the discharge. Additionally, pollutant parameters in the effluent must be physically, chemically and biologically identical to those found in the influent. These and other conditions are intended to address the problems described above and to limit the use of net credits to appropriate circumstances.

2. Proposed changes. Industry litigants were concerned that the restrictions in the existing rule severely limited the availability of net credits. For example, most pollutants change form in some way as they pass through a facility, and thus it is nearly impossible to provide exact physical, chemical, and biological identity between intake and effluent pollutants. EPA, for its part, was concerned that permitting authorities were overlooking the need for careful application of net credits due to the excessive complexity of the existing rule. Therefore, the proposal dropped many of the existing restrictions in an attempt to respond to both these concerns. They were replaced by a statement that net credits would be given only where necessary to meet applicable technology-based limitations. In place of the demonstration of exact equivalency of pollutant parameters in influent and effluent, three alternative demonstrations of substantial similarity were provided. The "same body of water" restriction was dropped. (See 47 FR 52080–81, November 18, 1982.) Both th existing rule and the proposal reflected the efforts of many parties to deal with many individual situations of concern. In both cases, this led to detailed and lengthy regulations and preamble discussions. The settlement agreement resulted in such a complicated proposal that EPA became concerned, after reviewing public comments on the proposal, that the proposed changes failed to simplify the net/gross provision so that it might be properly understood and implemented.

3. Comments and responses. The most controversial aspect of the net/gross issue was the removal of the "same body of water" restriction. Industry comments were strongly in favor of removal of this restriction while environmental groups and government organizations were strongly opposed. One government organization stated that it was aware of several instances in which contaminated groundwater was being used for non-contact cooling water and discharged to cleaner surface water without treatment. During the development of the existing rule, EPA was particularly concerned with fresh water discharge to estuaries. Several of the environmentalist and government organizations gave hypothetical examples in support of retention of the restriction. Industry commenters claimed that water quality standards were sufficient to protect receiving water while those opposed to the proposal pointed out that standards are often inadequate, especially for toxic pollutants. While EPA agrees with this latter argument, we also note that in some limited cases the same body of water restriction may not be appropriate. One example might be a case where intake waters are taken from a relatively clean tributary of a relatively dirty body of water and discharged to the latter body, possibly adjacent to where the tributary itself flows into the large body. Therefore, EPA has decided to retain the same body of water restriction but with some discretion available to the permitting authority to waive the requirement on a case-by-case basis. EPA agrees with the commenters who said that water quality standards are often inadequate since many States have not yet developed specific limitations on toxic pollutants, and hence meeting water quality standards is not alone a sufficient condition for this waiver.

One commenter stated that the proposed regulations have too many restrictions and give too much discretion to the permit writer. The commenter said industry is not responsible for removing pollutants in the intake water and that EPA should provide for simple subtraction of all intake pollutants from effluent standards. For the reason stated above, EPA cannot accept this argument. Intake pollutants do not pass through intake treatment systems, facilities, and effluent treatment systems unchanged. Thus, simple subtraction would amount to a relaxation of standards that were based on a determination of what technology can achieve, without taking into account the true removals the technology accomplishes. Another industrial commenter stated that EPA should "continue to allow a full credit * * and * * * not use a threshold test." The commenter misinterprets the current regulation which does not allow a full credit, but only a credit after consideration of removal in intake and effluent treatment systems. Today's regulation replaces that complicated calculation with a more simple approach of granting credit as needed to meet technology-based standards.

Several commenters stated that the proposal was too complex. As indicated above, EPA agrees and, in today's final rule, has attempted to simplify the regulations and preamble explanation. A State agency commented that discretion regarding net credits should be left to the permitting authority. EPA agrees that the permitting authority is best positioned to decide when net credits are appropriate and has significantly simplified the regulation and preamble to further this principle.

A commenter representing a water treatment plant supported the proposed changes to the net/gross rules and argued that raw water clarifier sludge and filter backwash should be allowed to be discharged back to the stream. A State maintained that this was an unwarranted exemption from NPDES requirements. The existing regulation has been interpreted by some as imposing an absolute ban on clarifier

sludge discharges, although on its face it only bans net credits for such discharges. The proposal was interpreted to allow these discharges without restriction, except for restrictions required to meet water quality standards.

After review of all of the comments on this issue, EPA has decided that both extreme positions are undesirable. Discharge requirements for discharges of raw water clarifier sludge and filter backwash are best determined at the local permitting level after consideration of the appropriate technology-based effluent limits and water quality standards. Since there are no national guidelines for these discharges, they must be limited on a case-by-case basis according to the permit writer's Best Professional Judgment (BPJ), with more stringent limits if necessary to meet water quality standards. The particular technology used to determine BPJ technology-based effluent limits depends on the application of the statutory criteria for different levels of control, for example, best practicable or best conventional technology. These regulations are intended neither to ban such discharges nor to prohibit permit authorities from imposing such a ban in specific cases where this is the appropriate standard for control.

An environmental group commented that the proposed tests for similarity of generic pollutants may not be adequate to fulfill the objectives of the Clean Water Act, especially with regard to water quality. Their concern was that generic pollutants in the influent which were composed of relatively non-toxic constituents would be credited against more harmful constituents in the effluent. On the other hand, an industrial commenter said that the proposed tests to show substantial similarity of generic pollutant parameters are much more reasonable than the existing rule. In general, EPA believes that the "substantial similarity" approach (as opposed to demonstration of identical chemical, physical and biological characteristics) appropriately provides greater flexibility to permit writers in considering requests for net credits, but nevertheless provides adequate protection against environmental harm. However, EPA agrees that strict application of only one of the three tests for demonstrating substantial similarity suggested in the proposal, in some cases, may not provide adequate protection. Therefore, the three tests of the proposal have been replaced in today's final regulation with a more flexible regulation which relies more heavily on the exercise of judgment by the permit writer. The tests specified in the proposal may still be considered by permit writers. However, other alternatives may be required where necessary for adequate protection.

An industrial commenter asked for more flexible specification of the definition of "control system" arguing that net credits should be available in cases where the control strategy intended to be employed to meet permits limits involves management practices, such as a chlorine minimization program, rather than physical treatment technology. As explained in the preamble to the proposal, control system means any control measures considered by permit writers in developing effluent limitations which are applied by the permittee to wastestreams in order to meet the technology-based limitations and standards established in the permit. This includes measures such as chlorine minimization programs. This regulation is not intended to require the installation of specific treatment technology in all cases (e.g., in many cases it may not be necessary, or even useful, to run noncontact cooling water or raw water clarifier sludge through the same treatment system designed for process waters). Nor would this regulation bar a permitting authority from requiring treatment technology, other controls, or zero discharge in a particular case. In considering net credit requests permit writers should examine the control measures that were intended to be employed to meet the applicable permit limits.

Another industrial commenter wanted net credits to be available for water quality-based standards. A State also raised water quality concerns. The proposed regulation included a section stating that the regulation did not preclude consideration of intake pollutants in setting water quality based limits. For the following reasons, EPA is deleting this section as unnecessary. This regulation deals only with technology-based standards. The Clean Water Act's requirement to protect and enhance water quality is not conditioned on factors such as intake water quality and it would be inappropriate for EPA to impose such a condition. Eligibility for a net credit under these regulations does not imply any right to violate water quality standards. However, EPA recognizes that implementation of water quality-based standards is a complex balancing and consideration of many facilities and many factors and that, in setting water quality based permit limitations, a permit writer may take into account the presence of intake water pollutants, as appropriate. Of course, in any case limits must be adequate to meet the water quality objectives of the Clean Water Act when considered along with control requirements for other dischargers to the stream.

An environmental group maintained that the provision that dischargers need not incur significant additional expense to remove intake pollutants amounts to an economic variance which is illegal under the Clean Water Act. EPA does not agree with this contention. EPA is not authorizing variances from the applicable effluent limitations based on the costs to a particular permittee to meet these. Rather, EPA is recognizing that in meeting these limitations the permittee should not be responsible for additional incidental removal of intake pollutants where this would result in significant additional costs. EPA believes this comports with the Fourth Circuit ruling in *Appalachian Power*. In addition, we note that net credits are only available to the extent needed to meet applicable limitations.

4. EPA action. The issue of net/gross credit presents difficult problems. While in certain circumstances credits may be appropriate, there are abundant possibilities for abuse. Attempts by EPA to deal with this situation in complicated and detailed regulations do not seem to have resolved these problems and may have unduly restricted the legitimate use of net credits. Therefore, EPA has decided to restructure the regulation, preserving the best of the existing rule and settlement proposal, but simplifying it and providing for more discretion by the local permitting authority. This should make the granting of net/gross credits on a reasoned basis more workable and less arbitrary.

Three particular situations merit specific comment. First, "proper" operation of the control system as required in § 122.45(g)(1)(ii) could arguably be interpreted to require the permittee to incur significant additional expense (such as additional chemical cost) to treat as much of the pollutant present in the effluent as the system is capable of removing. EPA intends that if the permittee would incur significant additional expense above those contemplated in the development of effluent limitations in achieving the incidental removal of intake pollutants the discharger should qualify for a credit to account for these. EPA cannot place a precise figure on what is a "significant" additional cost. This determination must be made on the basis of site-specific

information during the individual permit process. Similarly, when a company is adding a pollutant (e.g., chlorine) only during certain times, it need not continuously operate the system intended to remove that pollutant, but rather only needs to operate as necessary to remove the pollutant added, if it would require significant additional expense to add more chemicals to also control the pollutants present in the intake water.

Second, raw water clarifier sludges and filter backwash, if discharged, are subject to NPDES regulations as are any other discharges of pollutants. Consideration must be given to any additions to the intake water by the permittee, such as the use of flocculants. Since, as described above, EPA believes that these discharges are best dealt with outside the context of net/gross, the language in the proposal concerning raw water clarifier sludges has been deleted. Further, to avoid the improper use of the net/gross regulation to avoid appropriate technology-based limitations on these discharges, a provision has been added to remove them from coverage under net/gross.

Third, a large volume of non-process water, such as non-contract cooling water, is frequently combined with a relatively small volume of process water. An otherwise appropriate grant of net credits for the non-process water could conceivably lead to outfall limits so high as to mask inadequate process water treatment. If a net credit is deemed appropriate in such a situation, the permit writer should set additional limits, under § 122.45(g)(2), to assure proper removal of process water pollutants. These limits may cover the generic pollutants immediately after the process water treatment system or more specific process water pollutants at the outfall. Finally, ineligibility of a facility for net/gross credits under this regulation does not affect that facility's right to apply for a fundamentally different factor (FDF) variance.

H. Total Metals (40 CFR 122.45(c) [CPR § 122.63(c)])

1. *Background.* Metals in water occur in both dissolved and solid forms. There are three methods for measuring the level of metals in water. Each of these methods will give a different result depending upon the amounts of metals which are in each form. The total metals method uses a strong acid digestion to dissolve solids and measures both dissolved and solid metals. The dissolved metals method uses filtration to remove solids and measures only dissolved metals. The total recoverable metals method is an intermediate method which uses a weak acid treatment to dissolve readily soluble solids and filtration to remove residual solids. Details of these methods may be found in the publication "Methods for the Chemical Analysis of Water and Wastewater", EPA–600/4–79–020, March, 1979.

Decisions on how to measure metals in effluents must be made when establishing permit limitations and compliance monitoring requirements. These decisions are complicated by the chemical and biological processes that occur when effluents combine with receiving waters. Additionally, what ultimately happens to these pollutants in the receiving waters is very complex. Metals in solid form may dissolve and, although somewhat less likely, metals in dissolved form may change to solid. (See "Water Related Environmental Fate of 129 Priority Pollutants", EPA–440/4–79–029a.)

2. *Existing rules.* The current regulation takes the conservative approach of regulating metals as total metals, unless otherwise specified in a nationally promulgated effluent limitations guideline (guideline) or the permit writer in setting case-by-case permit limitations determines that a different method of measurement is appropriate. This approach is based on the assumption that all solid metals have the potential to dissolve and adversely affect the environment.

3. *Proposed changes.* Industry litigants claimed that only dissolved metals were environmentally significant and, therefore, that the appropriate method of measurement should be dissolved metals. EPA disagreed with this claim because of the complex chemical and biological processes that occur when effluents combine with receiving waters. For example, metals in the effluent of an electroplating facility that adds lime and uses clarifiers will be a combination of solids not removed by the clarifiers and residual dissolved metals. When the effluent from the clarifiers, usually with a high pH level, mixes with receiving water with a significantly lower pH level, these solids instantly dissolve. Measuring dissolved metals in the effluent, in this case, would underestimate the impact on the receiving water. Measuring with the total metals method required by the existing regulations, on the other hand, would assure no violation of water quality. Furthermore, proper sizing and operation of the clarifiers is a necessary part of the technology of reducing metals to acceptable levels. Measuring dissolved metals in the effluent would mask any inadequacies in the clarification step.

EPA, therefore, proposed a lesser relaxation of the existing rule, using total recoverable metals as the general standard, unless otherwise specified in a guideline or the permit writer determines other measures are appropriate. This standard for determining the level of metals in the effluent would measure dissolved metals plus that portion of solid metals which can easily dissolve. This is intended to measure metals which are or may easily become environmentally active, while not measuring those which may be expected to settle out and remain inert.

4. *Comments and responses.* An industrial commenter wanted the use of the total recoverable metals method extended to cases where guidelines are based on total metals. However, as stated in the preamble to the proposal, data using total metals and that using total recoverable metals are not interchangeable. Therefore, EPA could only change the guidelines measurement method based on compilation of a new data base. This would be a large and extensive undertaking and would adversely affect EPA's ability to address important priorities. Such a disruption to program implementation is unwarranted and would conflict with court ordered deadlines. Where guidelines specify total (or dissolved) metals, that is the method to be used.

Several commenters stated that data based on total recoverable metals are not readily available. This is generally true at this time. Where effluent data based on total metals are being used to set permit limits (such as treatability manual data used for a "best professional judgment" determination), the permit writer may need to gather additional comparison effluent data using both methods. Data involving water quality standards is quite a different case. Analytical methods used to set water quality standards are not uniform and often vary within, as well as among, States. Consequently, when using data based on water quality standards to set effluent limitations, permit writers may discover that these data were derived from any of the three methods of measuring metals in the receiving water. However, because of the complex processes that occur when effluents combine with receiving waters, it is not possible to relate directly the form of the metals in the effluent to those in the receiving water. Therefore, it is not necessary to use the same analytical method used in developing the water quality standards for